

Water-Data Report 2013

03417500 CUMBERLAND RIVER AT CELINA, TN

Upper Cumberland Basin
Upper Cumberland-Cordell Hull Reservoir Subbasin

LOCATION.--Lat 36°33'15", long 85°30'52" referenced to North American Datum of 1927, Clay County, TN, Hydrologic Unit 05130106, on right bank at State Highway 52 bridge, 0.5 mi northwest of courthouse in Celina, 600 ft downstream from Obey River, and at mile 380.8.

DRAINAGE AREA.--7,307 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Established as a streamflow station Oct 1, 1922. Daily mean discharge data from Oct. 1922 through Sept. 1991 when it was discontinued as a USGS station (operation continued as a US Army Corp. of Engineers station). Re-established as a USGS station in Oct. 2012.

GAGE.--Water-level sensor and satellite data collection platform.

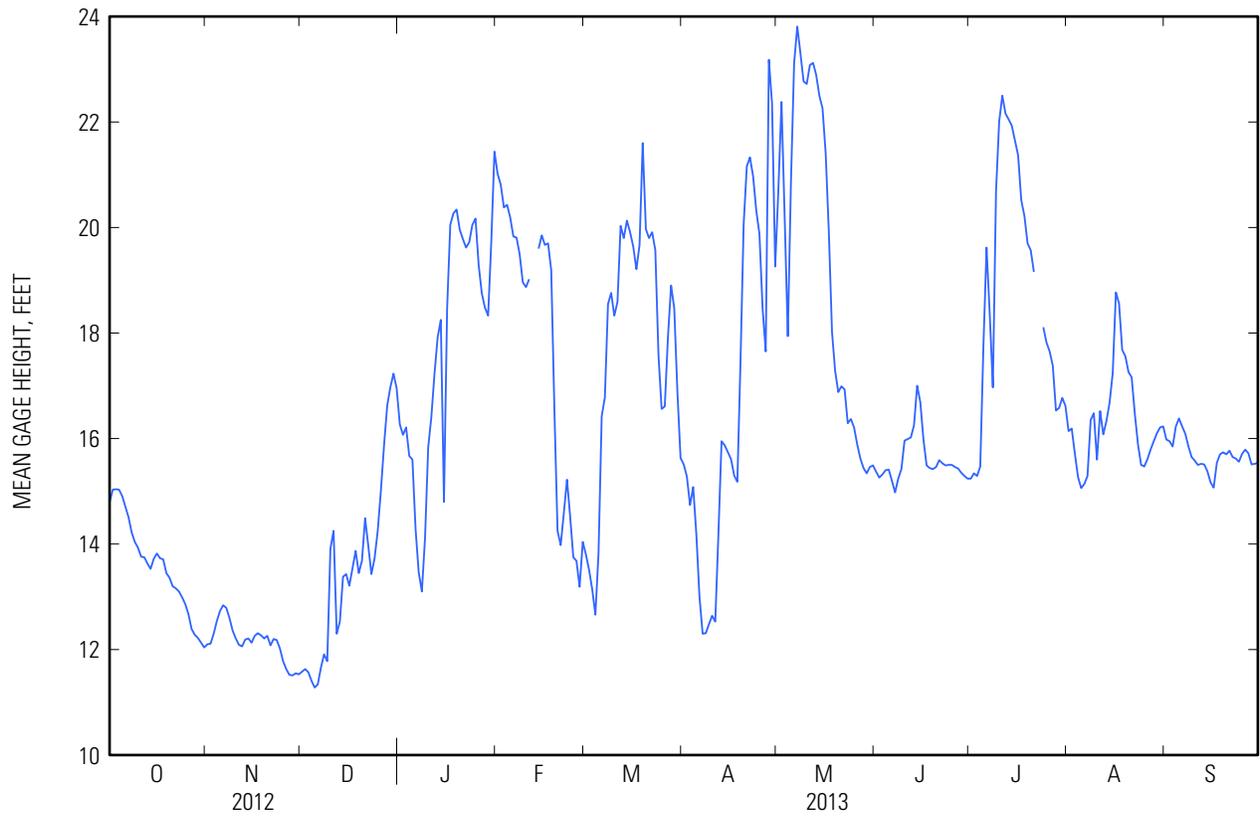
EXTREMES FOR CURRENT YEAR.--Maximum gage height, 25.5 ft, Apr. 28; minimum gage height, 11.00 ft, Dec. 4 and Dec. 6.

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	14.79	12.10	11.58	16.27	21.02	13.80	15.51	20.71	15.37	15.24	16.14	15.98
2	15.03	12.11	11.63	16.07	20.81	13.51	15.28	22.38	15.26	15.34	16.19	15.95
3	15.04	12.30	11.57	16.21	20.38	13.14	14.74	20.19	15.32	15.29	15.71	15.85
4	15.03	12.54	11.41	15.67	20.43	12.66	15.08	17.94	15.40	15.47	15.27	16.23
5	14.91	12.73	11.28	15.60	20.19	13.84	14.19	20.88	15.41	17.75	15.06	16.38
6	14.71	12.84	11.34	14.28	19.83	16.42	13.00	23.12	15.20	19.62	15.14	16.23
7	14.51	12.79	11.66	13.46	19.81	16.78	12.30	23.81	14.98	18.37	15.29	16.09
8	14.22	12.60	11.91	13.10	19.49	18.55	12.31	23.30	15.24	16.97	16.35	15.85
9	14.04	12.36	11.78	14.12	18.96	18.76	12.48	22.77	15.42	20.69	16.48	15.65
10	13.93	12.21	13.91	15.83	18.87	18.33	12.64	22.72	15.96	22.01	15.60	15.58
11	13.76	12.09	14.25	16.41	19.02	18.59	12.53	23.08	15.99	22.50	16.52	15.50
12	13.75	12.06	12.30	17.23	---	20.03	14.19	23.12	16.02	22.16	16.08	15.52
13	13.63	12.19	12.53	17.92	---	19.80	15.95	22.89	16.25	22.05	16.33	15.51
14	13.53	12.21	13.38	18.25	19.60	20.13	15.87	22.50	17.00	21.93	16.68	15.38
15	13.72	12.13	13.43	14.80	19.85	19.91	15.74	22.26	16.69	21.65	17.24	15.17
16	13.82	12.26	13.21	18.47	19.67	19.64	15.61	21.41	15.98	21.37	18.77	15.07
17	13.73	12.31	13.54	20.05	19.70	19.21	15.30	19.92	15.49	20.52	18.56	15.54
18	13.71	12.27	13.87	20.27	19.19	19.67	15.18	18.03	15.44	20.22	17.68	15.70
19	13.45	12.21	13.45	20.34	16.56	21.60	17.46	17.28	15.42	19.70	17.56	15.74
20	13.36	12.26	13.68	19.96	14.25	19.97	20.06	16.88	15.46	19.57	17.26	15.70
21	13.20	12.08	14.49	19.78	13.98	19.80	21.16	16.99	15.59	19.16	17.16	15.77
22	13.16	12.20	13.97	19.62	14.59	19.91	21.33	16.93	15.53	---	16.47	15.65
23	13.10	12.18	13.43	19.72	15.22	19.57	20.97	16.29	15.49	---	15.89	15.62
24	12.99	12.02	13.73	20.05	14.52	17.58	20.32	16.37	15.50	18.11	15.50	15.56
25	12.86	11.78	14.25	20.17	13.75	16.56	19.88	16.21	15.50	17.82	15.47	15.71
26	12.67	11.63	15.01	19.29	13.68	16.61	18.47	15.89	15.46	17.65	15.61	15.79
27	12.39	11.52	15.87	18.75	13.19	17.92	17.65	15.62	15.43	17.38	15.79	15.72
28	12.28	11.51	16.62	18.48	14.04	18.90	23.18	15.44	15.35	16.53	15.95	15.51
29	12.22	11.55	16.97	18.33	---	18.47	22.35	15.34	15.29	16.58	16.10	15.52
30	12.13	11.53	17.23	19.73	---	16.88	19.26	15.46	15.24	16.77	16.21	15.54
31	12.04	---	16.95	21.44	---	15.63	---	15.49	---	16.62	16.23	---
Mean	13.60	12.15	13.56	17.73	---	17.81	16.67	19.39	15.59	---	16.33	15.70
Max	15.04	12.84	17.23	21.44	---	21.60	23.18	23.81	17.00	---	18.77	16.38
Min	12.04	11.51	11.28	13.10	---	12.66	12.30	15.34	14.98	---	15.06	15.07

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued



03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1991 to September 1997, October 1999 to September 2004, October 2012 to September 2013.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1991 to September 1997, October 1999 to September 2004, March 2013 to September 2013

pH: November 1991 to September 1997, October 1999 to September 2004, March 2013 to September 2013.

WATER TEMPERATURE: November 1991 to September 1997, October 1999 to September 2004, November 2012 to September 2013

DISSOLVED OXYGEN: October 1992 to September 1997, October 1999 to September 2004, March 2013 to September 2013.

INSTRUMENTATION.--Data collection platform and water-quality monitor.

REMARKS.--Flow regulated by Lake Cumberland (station 03413500) and Dale Hollow Lake (station 03416500). Interruptions in the record were due to instrument malfunctions. Records for water temperature, specific conductance, pH and D.O. are good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 20.3°C, Sept. 2, 2002, Sept. 3, 2013; minimum, 2.5°C, Feb. 9, 1995.

SPECIFIC CONDUCTANCE: Maximum, 280 microsiemens, Aug. 29, 1992; minimum, 113 microsiemens, Mar. 27, 1994.

pH: Maximum, 8.7 units, May 15, 2013 May 31, 2013; minimum, 6.2 units, Sept. 14, 1993.

DISSOLVED OXYGEN: Maximum, 15.3 mg/L, Jan. 29, 2000; minimum, 2.0 mg/L, July 5, 2013.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 20.8°C, Sept. 3; minimum, 5.8°C, Mar. 4.

SPECIFIC CONDUCTANCE: Maximum, 210 microsiemens/cm, Mar. 5; minimum, 157 microsiemens/cm, Aug. 11.

pH: Maximum, 8.7 standard units, May 15; minimum, 7.4 standard units, on several

DISSOLVED OXYGEN: Maximum, 12.7 mg/L, Mar. 4; minimum, 2.0 mg/L, July 5.

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	---	---	---	---	---	---	10.0	9.4	9.8	9.7	9.5	9.6
2	---	---	---	---	---	---	11.0	10.0	10.6	9.6	9.3	9.5
3	---	---	---	---	---	---	12.3	11.0	11.8	9.4	9.1	9.3
4	---	---	---	---	---	---	13.2	12.3	12.8	9.2	8.8	9.0
5	---	---	---	---	---	---	13.9	13.1	13.4	9.2	8.7	9.0
6	---	---	---	---	---	---	13.2	12.5	12.8	9.2	8.9	9.1
7	---	---	---	---	---	---	12.6	12.4	12.5	9.1	8.7	8.9
8	---	---	---	11.6	11.2	11.4	12.9	12.6	12.7	8.8	8.4	8.6
9	---	---	---	12.1	11.0	11.4	13.2	12.7	12.9	9.4	8.7	9.0
10	---	---	---	11.7	10.7	11.1	13.4	12.5	13.1	9.9	9.4	9.6
11	---	---	---	11.5	10.9	11.3	12.5	11.2	11.8	10.5	9.9	10.2
12	---	---	---	12.0	11.4	11.6	11.2	9.8	10.4	10.8	10.2	10.5
13	---	---	---	11.7	11.0	11.3	10.7	9.0	9.6	11.6	10.7	11.0
14	---	---	---	11.2	10.4	10.9	11.3	10.7	11.0	11.0	10.0	10.5
15	---	---	---	10.9	10.2	10.5	11.8	11.3	11.5	10.0	8.4	9.3
16	---	---	---	10.4	9.8	10.1	12.3	11.8	12.0	8.5	8.1	8.3
17	---	---	---	11.3	9.7	10.4	12.6	12.3	12.5	8.7	8.2	8.4
18	---	---	---	11.9	11.0	11.4	12.4	11.9	12.2	8.8	8.5	8.6
19	---	---	---	11.9	11.3	11.6	11.9	11.5	11.7	8.8	8.5	8.6
20	---	---	---	12.8	11.7	12.2	11.5	10.9	11.4	8.9	8.6	8.7
21	---	---	---	13.2	12.5	12.9	---	---	---	8.6	8.2	8.5
22	---	---	---	13.4	12.7	13.1	---	---	---	8.2	7.8	8.0
23	---	---	---	13.4	12.4	12.9	---	---	---	8.0	7.6	7.8
24	---	---	---	12.8	11.6	12.2	11.0	9.7	10.4	7.9	7.6	7.8
25	---	---	---	11.6	10.2	10.8	11.1	10.7	10.9	7.6	7.4	7.5
26	---	---	---	10.2	9.6	9.8	10.7	10.2	10.4	7.6	7.3	7.4
27	---	---	---	9.6	9.2	9.5	10.2	9.7	9.9	7.5	7.3	7.4
28	---	---	---	9.5	8.6	9.0	10.2	9.9	10.1	7.9	7.4	7.6
29	---	---	---	9.1	8.4	8.7	10.2	9.6	10	8.2	7.8	8.0
30	---	---	---	9.8	9.1	9.4	9.6	9.3	9.4	8.9	8.2	8.5
31	---	---	---	---	---	---	9.6	9.3	9.4	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	6.8	6.5	6.6	9.0	8.3	8.6	11.7	10.8	11.2
2	---	---	---	6.8	6.4	6.6	8.8	8.4	8.6	11.3	10.5	10.9
3	---	---	---	6.6	6.2	6.4	8.5	8.0	8.3	11.8	10.8	11.3
4	---	---	---	6.6	5.8	6.2	8.2	7.6	7.8	11.8	10.7	11.2
5	---	---	---	7.8	6.4	7.1	9.1	7.8	8.4	11.5	10.8	11.1
6	---	---	---	7.4	6.5	6.8	10.3	8.9	9.6	12.1	11.4	11.7
7	7.1	6.8	7.0	6.5	5.9	6.1	11.3	9.9	10.6	11.9	11.2	11.6
8	7.1	6.9	7.0	6.8	6.2	6.5	11.6	10.3	11.0	12.0	11.3	11.6
9	7.1	6.7	6.9	7.1	6.5	6.8	11.7	10.8	11.2	12.1	11.6	11.8
10	7.2	6.7	6.9	7.4	6.8	7.1	12.1	10.8	11.5	11.9	11.4	11.6
11	7.7	7.2	7.5	7.8	7.2	7.5	11.7	10.9	11.4	11.7	11.2	11.4
12	7.5	7.1	7.3	7.7	7.3	7.5	11.5	11.0	11.3	11.8	11.1	11.5
13	---	---	---	7.3	6.6	6.9	11.7	10.6	11.2	12.0	11.3	11.6
14	---	---	---	6.7	6.2	6.5	11.3	10.7	11.0	12.4	11.4	11.9
15	---	---	---	7.2	6.4	6.8	11.7	10.8	11.1	13.0	11.8	12.3
16	---	---	---	7.8	7.0	7.4	12.5	11.6	12.0	12.7	11.8	12.3
17	---	---	---	7.9	7.3	7.6	13.1	12.3	12.7	12.6	12.1	12.3
18	---	---	---	7.6	7.1	7.3	13.7	12.6	13.1	12.3	12.0	12.2
19	---	---	---	8.3	7.5	8.0	13.7	11.6	12.9	12.6	12.2	12.4
20	---	---	---	8.0	7.5	7.8	11.6	9.0	10.3	13.5	12.4	13.0
21	---	---	---	7.6	6.7	7.1	9.4	8.3	8.9	13.9	13.0	13.4
22	---	---	---	6.9	6.5	6.7	10.8	9.3	10	13.7	12.9	13.3
23	---	---	---	7.3	6.6	6.9	10.5	9.9	10.2	14.0	13.3	13.6
24	---	---	---	7.7	7.3	7.5	10.0	9.5	9.6	14.1	13.8	13.9
25	8.1	7.0	7.6	7.6	7.1	7.3	10.0	9.0	9.6	14.4	13.5	13.9
26	8.1	7.8	7.9	7.1	6.8	6.9	10.2	9.4	9.7	14.9	14.1	14.5
27	7.8	7.4	7.6	7.5	6.6	7.1	10.3	9.6	10	16.3	14.8	15.4
28	7.5	6.6	7.0	7.8	7.0	7.4	11.4	10.3	10.9	17.0	16.3	16.6
29	---	---	---	7.5	7.2	7.4	11.7	11.4	11.5	17.6	16.7	17.0
30	---	---	---	7.7	7.0	7.4	11.8	11.2	11.5	17.9	16.9	17.6
31	---	---	---	8.3	7.7	8.0	---	---	---	17.8	17.3	17.6
Month	---	---	---	8.3	5.8	7.1	13.7	7.6	10.5	17.9	10.5	13.0

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	17.4	17.1	17.2	18.3	17.5	17.7	16.7	15.9	16.3	20.2	19.6	19.9
2	17.1	16.4	16.8	18.3	17.9	18.1	17.6	16.5	17.0	20.4	19.7	20.0
3	16.4	15.9	16.1	18.3	17.4	17.9	17.8	17.4	17.6	20.8	20.2	20.5
4	16.5	14.0	15.6	17.5	17.1	17.3	18.6	17.8	18.3	20.5	19.8	20.1
5	16.5	14.7	15.7	18.2	16.6	17.3	19.5	18.0	18.7	19.8	18.7	19.1
6	16.7	15.3	16.1	18.3	17.6	17.9	19.8	19.2	19.5	18.7	18.3	18.5
7	16.9	15.4	16.3	18.7	17.6	18.2	19.7	18.7	18.9	18.6	17.9	18.2
8	16.8	15.3	16.1	19.2	17.9	18.6	18.7	17.8	18.0	18.7	18.5	18.6
9	16.9	15.2	16.1	17.9	14.1	14.8	17.8	17.4	17.6	19.8	18.7	19.2
10	17.3	15.2	16.5	15.2	13.9	14.3	18.6	17.6	18.0	19.7	18.2	18.8
11	18.0	17.0	17.4	14.8	14.0	14.4	20.6	18.1	19.7	19.2	18.1	18.6
12	19.0	16.5	18.1	14.6	14.0	14.3	20.6	19.2	20.0	19.2	17.8	18.5
13	18.6	16.3	17.2	14.9	14.2	14.5	20.6	19.3	20.3	18.6	17.6	18.1
14	16.4	14.3	15.3	15.0	14.0	14.5	19.7	18.9	19.3	18.4	17.4	17.9
15	15.5	13.9	14.5	15.3	14.4	14.8	19.4	17.8	18.6	17.9	17.2	17.6
16	15.6	15.1	15.4	15.6	14.8	15.2	17.8	16.5	17.0	18.2	17.2	17.7
17	16.7	15.6	16.1	15.8	15.2	15.5	17.3	16.6	16.9	18.2	16.9	17.5
18	16.4	15.7	16.0	15.7	15.5	15.6	17.5	17.0	17.2	17.8	16.8	17.3
19	16.8	16.0	16.3	16.1	15.3	15.7	17.8	17.1	17.4	18.6	17.1	18.0
20	17.4	15.9	16.6	16.2	15.6	15.9	17.5	17.4	17.4	18.9	17.8	18.4
21	17.9	16.8	17.3	---	---	---	17.9	17.4	17.6	18.9	17.8	18.4
22	17.8	16.7	17.2	---	---	---	18.5	17.6	18.0	18.7	17.5	18.2
23	18.2	16.9	17.5	---	---	---	18.9	18.5	18.7	18.7	17.5	18.1
24	18.3	17.2	17.7	16.6	16.2	16.5	19.0	18.6	18.8	18.5	16.9	17.6
25	18.4	17.4	17.9	16.8	16.3	16.5	19.4	18.7	19.0	18.2	17.1	17.6
26	18.7	17.8	18.1	17.1	16.5	16.7	20.0	19.0	19.5	18.3	16.8	17.6
27	18.9	17.9	18.4	16.8	16.2	16.5	19.7	19.1	19.3	18.2	17.0	17.7
28	18.9	17.5	18.0	17.1	16.4	16.8	19.6	19.0	19.3	17.5	16.8	17.1
29	18.1	17.4	17.7	17.4	16.6	17.0	19.5	19.1	19.3	17.6	16.8	17.2
30	18.1	17.2	17.5	17.3	16.7	16.9	19.6	19.3	19.4	17.5	16.6	17.0
31	---	---	---	16.8	16.1	16.4	19.7	19.2	19.5	---	---	---
Month	19.0	13.9	16.8	---	---	---	20.6	15.9	18.5	20.8	16.6	18.3

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	197	191	193	196	194	195	197	186	190
2	---	---	---	198	196	197	197	195	196	190	187	188
3	---	---	---	202	197	199	198	195	197	194	190	192
4	---	---	---	202	201	201	198	193	195	200	194	195
5	---	---	---	210	172	192	199	196	198	196	187	191
6	---	---	---	198	180	191	199	197	198	187	177	183
7	---	---	---	194	184	190	199	198	198	191	182	188
8	---	---	---	193	189	190	198	196	197	191	189	190
9	---	---	---	189	186	188	199	197	197	190	187	188
10	---	---	---	186	183	185	200	198	199	188	186	187
11	---	---	---	187	182	184	207	197	199	186	185	186
12	---	---	---	189	182	186	205	196	200	185	181	183
13	---	---	---	187	182	184	205	195	199	181	179	180
14	---	---	---	183	181	183	206	199	202	179	177	177
15	---	---	---	182	179	181	208	206	207	177	177	177
16	---	---	---	180	176	177	209	203	206	178	176	177
17	---	---	---	178	176	177	205	201	203	180	174	176
18	---	---	---	182	177	179	204	198	201	182	177	179
19	---	---	---	181	165	171	202	184	192	181	177	178
20	---	---	---	184	177	180	194	183	187	180	177	179
21	---	---	---	184	182	183	188	186	187	179	175	177
22	---	---	---	186	183	185	188	187	187	181	177	178
23	---	---	---	185	181	182	191	187	189	188	179	182
24	---	---	---	191	183	186	192	188	189	188	182	184
25	---	---	---	191	185	188	192	189	190	185	180	181
26	---	---	---	188	182	185	192	187	189	185	179	181
27	---	---	---	185	183	184	192	185	188	186	183	185
28	---	---	---	185	182	184	193	172	179	189	185	187
29	---	---	---	193	184	188	193	172	182	188	185	186
30	---	---	---	194	191	193	199	193	197	189	185	186
31	---	---	---	196	191	194	---	---	---	188	185	187
Month	---	---	---	210	165	186	209	172	195	200	174	184

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013**

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	188	185	187	191	185	188	187	182	184	183	180	181
2	187	184	186	189	186	187	186	181	183	184	179	181
3	189	187	188	189	184	186	187	183	184	184	174	178
4	196	187	191	197	165	185	187	184	185	192	183	188
5	196	187	192	196	179	189	189	186	187	189	184	185
6	191	185	188	194	162	178	188	183	185	186	184	185
7	189	184	187	190	173	183	185	183	184	186	184	185
8	191	184	186	207	187	199	191	182	185	186	183	185
9	201	185	189	204	186	191	191	182	185	187	186	186
10	198	190	195	186	180	184	188	182	185	189	186	187
11	202	192	198	185	181	184	192	157	179	189	183	186
12	204	199	202	184	181	182	206	190	200	185	182	184
13	199	188	192	181	180	180	205	198	203	186	183	184
14	188	181	183	180	178	179	198	176	185	189	184	186
15	184	182	183	180	179	179	191	185	189	190	185	187
16	188	182	184	183	179	181	185	181	183	187	185	186
17	189	182	184	187	182	185	185	183	184	186	183	185
18	191	181	185	189	186	187	185	182	183	185	182	183
19	191	183	186	188	186	187	183	181	182	185	183	184
20	189	180	185	187	184	185	185	181	183	186	184	185
21	194	180	188	---	---	---	185	181	182	187	182	184
22	196	187	192	---	---	---	187	181	184	189	186	188
23	193	187	190	188	186	186	191	181	185	193	188	191
24	192	186	189	189	185	187	190	182	185	192	187	190
25	191	186	188	187	182	185	186	182	184	189	185	187
26	190	184	187	185	182	183	185	181	183	188	184	186
27	187	182	185	186	181	183	184	180	182	187	185	186
28	192	184	186	186	184	185	185	180	182	187	184	186
29	193	187	190	186	183	184	184	180	182	187	184	185
30	190	186	187	185	182	183	183	180	181	186	184	185
31	---	---	---	186	182	183	183	180	181	---	---	---
Month	204	180	188	---	---	---	206	157	185	193	174	185

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	---	---	---	---	---	---	---	---	---	---	8.0	7.9
2	---	---	---	---	---	---	---	---	---	---	8.0	7.9
3	---	---	---	---	---	---	---	---	---	---	8.0	8.0
4	---	---	---	---	---	---	---	---	---	---	8.1	8.0
5	---	---	---	---	---	---	---	---	---	---	8.0	7.9
6	---	---	---	---	---	---	---	---	---	---	7.9	7.9
7	---	---	---	---	---	---	---	---	---	---	8.0	7.9
8	---	---	---	---	---	---	---	---	---	---	7.9	7.9
9	---	---	---	---	---	---	---	---	---	---	7.9	7.9
10	---	---	---	---	---	---	---	---	---	---	7.9	7.9
11	---	---	---	---	---	---	---	---	---	---	7.9	7.9
12	---	---	---	---	---	---	---	---	---	---	7.9	7.9
13	---	---	---	---	---	---	---	---	---	---	7.9	7.9
14	---	---	---	---	---	---	---	---	---	---	7.9	7.9
15	---	---	---	---	---	---	---	---	---	---	7.9	7.8
16	---	---	---	---	---	---	---	---	---	---	7.8	7.8
17	---	---	---	---	---	---	---	---	---	---	7.8	7.8
18	---	---	---	---	---	---	---	---	---	---	7.9	7.8
19	---	---	---	---	---	---	---	---	---	---	7.9	7.8
20	---	---	---	---	---	---	---	---	---	---	7.9	7.9
21	---	---	---	---	---	---	---	---	---	---	7.9	7.9
22	---	---	---	---	---	---	---	---	---	---	7.9	7.9
23	---	---	---	---	---	---	---	---	---	---	7.9	7.8
24	---	---	---	---	---	---	---	---	---	---	7.9	7.8
25	---	---	---	---	---	---	---	---	---	---	7.9	7.9
26	---	---	---	---	---	---	---	---	---	---	7.9	7.9
27	---	---	---	---	---	---	---	---	---	---	7.9	7.9
28	---	---	---	---	---	---	---	---	---	---	7.9	7.9
29	---	---	---	---	---	---	---	---	---	---	7.9	7.9
30	---	---	---	---	---	---	---	---	---	---	7.9	7.9
31	---	---	---	---	---	---	---	---	---	---	7.9	7.9
Month	---	---	---	---	---	---	---	---	---	---	8.1	7.8

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	April		May		June		July		August		September	
1	8.0	7.9	7.9	7.8	8.4	8.2	7.7	7.6	7.5	7.5	7.6	7.6
2	8.0	8.0	7.8	7.8	8.3	8.0	7.7	7.6	7.6	7.5	7.7	7.6
3	8.0	8.0	7.8	7.8	8.0	7.9	7.7	7.6	7.6	7.5	7.6	7.5
4	8.0	7.9	7.9	7.8	8.0	7.9	7.7	7.6	7.6	7.6	7.7	7.5
5	8.1	7.9	7.9	7.8	8.1	8.0	7.7	7.6	7.8	7.6	7.6	7.6
6	8.2	8.1	7.9	7.8	8.1	7.9	7.8	7.7	7.8	7.7	7.7	7.6
7	8.2	8.1	7.8	7.8	8.0	7.9	7.7	7.6	7.8	7.6	7.8	7.6
8	8.3	8.0	7.8	7.6	8.0	7.8	7.7	7.7	7.7	7.6	7.8	7.6
9	8.2	8.0	7.9	7.7	7.9	7.6	7.7	7.5	7.6	7.5	7.8	7.6
10	8.1	7.9	7.9	7.8	7.8	7.7	7.5	7.4	7.6	7.5	7.9	7.7
11	8.0	7.9	8.1	7.9	7.7	7.6	7.5	7.4	7.7	7.6	7.8	7.6
12	8.0	7.9	8.5	8.1	7.7	7.7	7.5	7.4	7.6	7.5	7.7	7.6
13	7.9	7.9	8.6	8.4	7.8	7.7	7.5	7.4	7.7	7.6	7.8	7.6
14	8.0	7.9	8.6	8.4	7.8	7.6	7.5	7.4	7.7	7.6	7.8	7.6
15	8.1	8.0	8.7	8.3	7.7	7.6	7.4	7.4	7.6	7.6	7.8	7.6
16	8.1	8.0	8.4	8.2	7.8	7.6	7.4	7.4	7.6	7.5	7.8	7.7
17	8.1	8.0	8.3	8.0	7.9	7.6	7.4	7.4	7.5	7.4	7.8	7.7
18	8.1	7.9	8.2	7.9	7.8	7.7	7.4	7.4	7.5	7.5	7.8	7.6
19	8.1	7.9	8.0	7.8	7.8	7.6	7.4	7.4	7.5	7.4	7.7	7.6
20	7.9	7.8	7.9	7.7	7.8	7.7	7.4	7.4	7.5	7.4	7.6	7.5
21	7.8	7.8	7.8	7.6	7.8	7.7	7.4	7.4	7.5	7.4	7.6	7.5
22	7.9	7.8	7.8	7.6	7.8	7.7	---	---	7.5	7.4	7.6	7.5
23	7.9	7.8	7.7	7.5	7.7	7.6	7.5	7.5	7.6	7.5	7.7	7.5
24	7.9	7.8	7.8	7.7	7.7	7.6	7.5	7.5	7.6	7.5	7.7	7.6
25	7.9	7.8	7.8	7.7	7.7	7.6	7.5	7.5	7.6	7.6	7.7	7.6
26	7.9	7.8	7.9	7.8	7.7	7.6	7.5	7.5	7.6	7.6	7.6	7.5
27	7.9	7.8	8.1	7.8	7.7	7.6	7.5	7.5	7.6	7.6	7.7	7.6
28	7.9	7.8	8.3	8.0	7.6	7.6	7.5	7.4	7.6	7.6	7.8	7.7
29	7.8	7.8	8.4	8.0	7.6	7.6	7.6	7.5	7.6	7.6	7.8	7.7
30	7.9	7.8	8.4	8.1	7.7	7.6	7.6	7.5	7.6	7.6	7.8	7.7
31	---	---	8.5	8.2	---	---	7.5	7.5	7.6	7.6	---	---
Month	8.3	7.8	8.7	7.5	8.4	7.6	---	---	7.8	7.4	7.9	7.5

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	12.1	11.9	12.0	12.1	11.7	11.9	10.6	10.5	10.6
2	---	---	---	12.3	12.1	12.2	12.0	11.8	11.9	10.5	10.3	10.4
3	---	---	---	12.4	12.1	12.3	12.1	11.8	11.9	10.3	10.2	10.3
4	---	---	---	12.7	12.4	12.5	12.0	11.8	11.9	10.3	10.2	10.2
5	---	---	---	12.6	11.8	12.2	12.2	11.8	12.0	10.2	10.0	10.1
6	---	---	---	11.9	11.7	11.8	12.4	12.0	12.2	10.0	9.8	9.9
7	---	---	---	12.2	11.8	12.0	12.2	11.8	12.1	10.1	9.9	10.0
8	---	---	---	12.1	12.0	12.0	12.1	11.6	11.9	10.2	10.1	10.2
9	---	---	---	12.0	12.0	12.0	11.9	11.5	11.7	10.2	10.1	10.1
10	---	---	---	12.0	11.9	11.9	11.9	11.3	11.6	10.1	10.0	10.0
11	---	---	---	11.9	11.7	11.8	11.5	10.7	11.3	10.0	9.9	10
12	---	---	---	11.8	11.7	11.7	10.9	10.6	10.8	10.0	9.9	9.9
13	---	---	---	12.0	11.8	11.9	10.7	10.6	10.6	10.0	9.9	10
14	---	---	---	12.1	12.0	12.1	11.4	10.6	11.0	10.0	9.9	10
15	---	---	---	12.1	12.0	12.1	11.6	11.1	11.3	9.9	9.8	9.9
16	---	---	---	12.0	11.7	11.9	11.7	11.1	11.4	9.8	9.7	9.8
17	---	---	---	11.8	11.7	11.7	11.6	11.1	11.3	9.9	9.7	9.8
18	---	---	---	11.7	11.6	11.7	11.6	11.0	11.2	10.0	9.7	9.8
19	---	---	---	11.6	11.4	11.4	11.4	10.3	10.7	10.0	9.8	9.9
20	---	---	---	11.8	11.6	11.7	11.0	10.0	10.6	10.0	9.7	9.9
21	---	---	---	11.9	11.8	11.8	11.1	11.0	11.0	10.0	9.8	9.9
22	---	---	---	11.8	11.8	11.8	11.0	10.9	11.0	10.0	9.7	9.8
23	---	---	---	11.8	11.8	11.8	11.0	10.9	10.9	9.9	9.8	9.9
24	---	---	---	11.8	11.6	11.7	10.9	10.8	10.9	10.2	9.8	10.0
25	---	---	---	11.8	11.6	11.7	10.9	10.8	10.8	10.4	10.0	10.2
26	---	---	---	11.9	11.8	11.9	10.9	10.8	10.9	10.6	10.3	10.4
27	---	---	---	12.0	11.9	11.9	10.9	10.7	10.8	11.2	10.3	10.5
28	---	---	---	12.0	11.9	11.9	10.7	10.2	10.5	11.4	10.6	11.0
29	---	---	---	11.9	11.8	11.8	10.2	10.1	10.2	11.6	10.8	11.2
30	---	---	---	11.9	11.8	11.8	10.6	10.2	10.4	11.6	10.7	11.2
31	---	---	---	11.8	11.7	11.8	---	---	---	11.6	11.0	11.3
Month	---	---	---	12.7	11.4	11.9	12.4	10.0	11.2	11.6	9.7	10.2

03417500 CUMBERLAND RIVER AT CELINA, TN—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	11.5	10.8	11.2	9.0	7.3	8.4	7.9	7.5	7.7	8.1	7.7	7.9
2	11.3	10.4	10.8	8.8	7.8	8.5	8.0	7.7	7.9	8.3	7.1	7.9
3	10.6	10.1	10.4	8.9	7.3	8.1	8.0	7.8	8.0	7.2	6.3	6.8
4	10.8	9.8	10.3	8.5	4.5	7.5	8.7	7.9	8.2	7.9	6.9	7.4
5	10.9	10.3	10.7	4.7	2.0	3.1	9.5	8.3	8.7	7.6	7.3	7.4
6	10.9	10.1	10.4	8.8	3.6	7.0	9.5	8.6	9.0	8.8	7.5	8.2
7	10.6	9.9	10.2	8.4	7.9	8.2	9.0	8.3	8.6	9.3	7.9	8.5
8	10.5	9.8	10.1	8.2	7.6	7.9	8.9	8.2	8.5	9.2	7.7	8.4
9	10.3	8.9	9.6	8.6	8.0	8.2	8.2	7.8	8.0	9.7	7.6	8.3
10	9.6	8.7	9.2	8.1	7.9	7.9	8.4	7.7	7.9	9.9	8.2	9.1
11	8.7	8.1	8.4	7.9	7.8	7.8	8.4	7.6	8.0	9.8	8.0	9.0
12	8.4	7.8	8.1	7.8	7.7	7.8	7.6	6.9	7.3	9.4	7.5	8.4
13	9.5	8.4	9.0	7.9	7.7	7.8	7.9	7.1	7.5	9.4	7.7	8.4
14	9.8	9.1	9.3	7.8	7.7	7.7	7.9	7.1	7.4	9.2	7.7	8.4
15	9.6	8.9	9.2	7.7	7.5	7.6	7.8	7.2	7.5	9.5	7.7	8.5
16	9.8	9.3	9.6	7.6	7.5	7.5	7.6	7.0	7.1	9.6	8.0	8.6
17	10.1	9.2	9.6	7.9	7.5	7.7	7.0	6.9	7.0	9.7	8.2	9.0
18	9.7	8.9	9.3	7.8	7.6	7.7	7.2	6.9	7.1	9.6	7.9	8.7
19	9.5	8.7	9.2	7.8	7.5	7.6	7.2	6.9	7.1	9.2	7.3	8.3
20	9.7	8.6	9.2	7.7	7.4	7.6	7.1	6.8	7.0	9.0	7.4	8.1
21	9.1	8.4	8.8	---	---	---	7.3	6.8	7.1	8.8	7.3	8.1
22	9.3	8.2	8.8	---	---	---	7.3	6.7	7.0	8.8	7.2	7.8
23	9.3	8.1	8.7	---	---	---	7.7	7.3	7.5	8.8	7.4	8.0
24	9.1	8.2	8.7	7.7	7.4	7.5	7.7	7.4	7.6	9.1	7.9	8.6
25	9.2	8.3	8.7	7.8	7.4	7.6	7.9	7.5	7.7	9.1	7.7	8.4
26	9.2	8.4	8.8	7.8	7.5	7.7	8.1	7.7	7.9	8.8	7.3	8.1
27	9.1	8.2	8.6	7.7	7.4	7.6	8.0	7.7	7.9	9.2	7.6	8.1
28	8.6	7.6	8.2	7.8	7.3	7.6	8.0	7.7	7.9	9.5	8.5	9.0
29	8.6	7.2	8.0	7.9	7.7	7.8	8.0	7.6	7.8	9.5	8.6	9.0
30	8.8	6.6	8.2	8.0	7.7	7.8	8.0	7.6	7.8	9.5	8.6	9.0
31	---	---	---	7.9	7.7	7.8	8.0	7.6	7.8	---	---	---
Month	11.5	6.6	9.3	---	---	---	9.5	6.7	7.7	9.9	6.3	8.3